

Amendments to the Drawings:

The attached sheet of drawings replace the original drawing sheets for Figs. 1 and 2.

REMARKS

The present amendment is submitted in response to the Office Action mailed March 7, 2005. Claims 1-27 are currently pending in the application. No new matter or issues are believed to be introduced by this amendment. In view of the remarks to follow, reconsideration and allowance of this application are respectfully requested.

Specification

In the Office Action, the Specification was objected to for a non-descriptive title. The title has been replaced with a new title as per the Examiner's recommendation. It is believed the new title is clearly indicative of the invention to which the claims are directed. Withdrawal of the objection is respectfully requested.

Drawings

In the Office Action, the Drawings were objected to for failing to comply with 37 CFR 1.121(d) for being informal and difficult to read. In response, new proposed replacement drawing sheets have been provided for Figs. 1 and 2, respectively. Withdrawal of the objection is respectfully requested.

35 U.S.C. §102(e)

Claims 1-4, 6-10, 12-13 and 18-24 were rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,594,629 (hereinafter Basu).

Applicants respectfully submit that the pending claims are patentable for at least the following reasons.

Claim 1 is directed to a speech recognition system comprising (1) an acoustic detector, (2) a visual detector, (3) a processing arrangement and (4) a speech recognizer.

The acoustic detector detects speech utterances of a speaker. The visual detector detects at least one facial characteristic associated with the speech utterances of the speaker. The processing arrangement derives a signal responsive to the acoustic and visual detectors having a first and second value.

The first value of the signal is derived ONLY in response to the acoustic detector detecting a finite, nonzero acoustic response while the visual detector detects at least one facial characteristic associated with speech utterances of the speaker. In other words, both the acoustic detector must detect a response and the visual detector must detect a response for a speech recognizer to derive an output.

The speech recognizer is connected to be responsive to the acoustic detector ONLY while the derived signal has the first value. When the derived signal has the first value, the speech recognizer derives an output that is indicative of the speech utterances as detected only by the acoustic detector.

Claim 2 is directed to the speech recognition of Claim 1, wherein the processing arrangement causes the signal to have the second value (speech recognizer NOT responsive to the acoustic detector) in response to any of:

- (a) the acoustic detector NOT detecting a finite, nonzero acoustic response while the visual detector does NOT detect speech utterances of the speaker,
- (b) the acoustic detector detecting a finite, nonzero acoustic response while the visual detector does NOT detect speech utterances of the speaker, and
- (c) the acoustic detector NOT detecting a finite, nonzero acoustic response while the visual detector detects speech utterances of the speaker.

Basu, as read by the applicants, relates to various methods and apparatus for using visual information and audio information associated with arbitrary video content to provide improved speech accuracy. The system of Basu includes a face detection module

18, a frontal pose detection module 20 and an event detection module 28. The event detection module 28 refers to the determination of whether or not an actual speech event that is intended to be decoded is occurring or is going to occur.

According to various embodiments, the system of Basu may use information from the video path only, information from the audio path only, or information from both paths simultaneously to decide whether or not to decode information.

Basu discloses at Col. 16, lines 53-63:

The system of the invention may apply one of, a combination of two of, or all three of, the approaches described above in the event detection module 28 to perform event detection.

Video information only based detection is useful so that the system can do the detection when the background noise is too high for a speech only decision. The audio only approach is useful when speech occurs without a visible face present. The combined approach offered by unsupervised utterance verification improves the decision process when a face is detectable with the right pose to improve the acoustic decision. [Emphasis Added]

Basu fails to teach or disclose a first value derived only in response to the acoustic detector detecting a finite, nonzero acoustic response while the visual detector detects at least one facial characteristic associated with speech utterances of the speaker; anda speech recognizer being connected to be responsive to the acoustic detector only while the signal has the first value.

As stated above, Basu teaches that the system may apply one of, a combination of two of, or all three of, the approaches described above in the event detection module 28 to perform event detection. In other words, the system of Basu does not perform speech detection only in the strict case where both criteria (1) and (2) are satisfied, where criteria (1) defines - an acoustic detector detecting a finite, nonzero acoustic response, and criteria (2) defines - a visual detector detecting at least one facial characteristic associated with speech utterances of the speaker;

It is respectfully submitted that at least the limitations and/or features of independent Claim 1 is believed to be patentably distinct over Basu. Therefore, reconsideration and withdrawal of the rejection is respectfully requested and allowance of claim 1 is respectfully requested.

Claims 2-4, 6-10, and 12-13 depend from independent Claim 1 and therefore contain the limitations of Claim 1 and are believed to be in condition for allowance for at least the same reasons given for Claim 1 above. Accordingly, withdrawal of the rejection under 35 U.S.C. §102(e) and allowance of Claims 2-4, 6-10, and 12-13 is respectfully requested.

Independent Claim 18 recites similar subject matter as Claim 1 and therefore contain the limitations of Claim 1. Hence, for at least the same reasons given for Claim 1, Claim 18 is believed to recite statutory subject matter under 35 U.S.C. §102(e).

Accordingly, it is respectfully requested that the rejection under 35 U.S.C. §102(e) of independent claim s 18 be withdrawn, and independent claim 18 be allowed.

Claims 19-24 depend from independent Claim 18 and therefore contain the limitations of Claim 18 and are believed to be in condition for allowance for at least the same reasons given for Claim 18 above. Accordingly, withdrawal of the rejection under 35 U.S.C. §102(e) and allowance of Claims 19-24 is respectfully requested.

35 U.S.C. §103(a)

Dependent Claims 5 and 11 were rejected under 35 U.S.C. §103(a) as being unpatentable over Basu in view of Official Notice.

Claims 5 and 11 depend from Claim 1 and therefore includes the limitations of Claim 1. Accordingly, for the same reasons given above for Claims 1, Claims 5 and 11 are believed to contain patentable subject matter. Accordingly, withdrawal of the rejections with respect to Claims 5 and 11 and allowance of Claims 5 and 11 is respectfully requested.

35 U.S.C. §103(a)

Dependent Claims 14-17 and 25-27 were rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,594,629 (hereinafter Basu 1) in view of U.S. Patent No. 6,219,640 (hereinafter Basu 2)

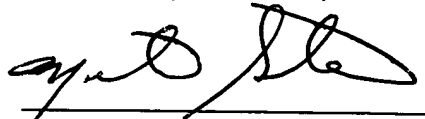
Claims 14-17 and 25-27 depend from Claims 1 and 18, respectively, and therefore includes the limitations of Claims 1 and 18, respectively. Accordingly, for the same reasons given above for Claims 1 and 18, Claims 14-17 and 25-27 are believed to contain patentable subject matter. Accordingly, withdrawal of the rejections with respect to Claims 14-17 and 25-27 and allowance of Claims 14-17 and 25-27 is respectfully requested.

Conclusion

In view of the foregoing amendments and remarks, it is respectfully submitted that all claims presently pending in the application, namely, Claims 1-27 are believed to be in condition for allowance and patentably distinguishable over the art of record.

If the Examiner should have any questions concerning this communication or feels that an interview would be helpful, the Examiner is requested to call Dicron Halajian, Esq., Intellectual Property Counsel, Philips Electronics North America, at 914-333-9607.

Respectfully submitted,



Michael A. Scaturro
Reg. No. 51,356
Attorney for Applicant

Mailing Address:
Intellectual Property Counsel
Philips Electronics North America Corp.
P.O. Box 3001
345 Scarborough Road
Briarcliff Manor, New York 10510-8001

Attachments enclosed: Replacement Figs. 1 and 2.